

Open Water Areas					Underpier and Limited Access Areas			Alternative Outcomes (Preliminary Approximate Values)												
Open Water Technology Grouping	Navigation Channel and Berth Areas	Shallow Main Body	West Seattle Bridge	Near Shore	Underpier Technology Grouping	Underpier	Sill Reach - Low Bridges	Removal Volume Total with 1.5 Design Factor (yd ³)	Removal and Partial Removal Area (% of Total Remediation Area/ % of Site)	Cost Total (\$millions)	Construction Timeframe (years)	Year 0 Post-construction			Year 5 Post-construction			Year 40 Post-construction		
	CMAs: Federal Navigation Channel - South Federal Navigation Channel - North Deep Draft Berth Areas (T-18, T-30, T-25) Slip 27 Channel Slip 36/ T-46 Offshore T-30 Nearshore Junction Reach Communication Cable Crossing	CMAs: Shallow main body - North and South Former Pier 24 Piling Field	CMA: Sill Reach - West Seattle Bridge	CMAs: Mound Area/ Slip 27 Shoreline Coastguard Nearshore		CMA: Underpier areas	CMA: Sill Reach - Spokane St Bridge					SWAC for Total PCBs (ug/kg considering bioavailability)	SWAC for Total PCBs (ug/kg dw)	Adult/ Child Tribal RME Excess Cancer Risk (Considering Bio-Availability)	SWAC for Total PCBs (ug/kg considering bioavailability)	SWAC for Total PCBs (ug/kg dw)	Adult/ Child Tribal RME Excess Cancer Risk (Considering Bio-Availability)	SWAC for Total PCBs (ug/kg considering bioavailability)	SWAC for Total PCBs (ug/kg dw)	Adult/ Child Tribal RME Excess Cancer Risk (Considering Bio-Availability)
No action	No Action	No Action	No Action	No Action	No action	No Action	No Action	0	n/a	\$0.76	0	600	600	1 x 10 ⁻³ / 2 x 10 ⁻⁴	426	Not modeled	9 x 10 ⁻⁴ / 2 x 10 ⁻⁴	183	Not modeled	4 x 10 ⁻⁴ / 8 x 10 ⁻⁵
1	*Removal (68 acres); *Partial Removal with ENR-nav (7 acres); *ENR-nav (9 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	A	MNR (12 acres)	*MNR (subtidal; 0.5 acres); *ENR-sill (intertidal; 0.7 acres)	813,000	80% / 62%	\$267	9	80	80	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	135	Not modeled	4 x 10 ⁻⁴ / 6 x 10 ⁻⁵	79	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵
1	*Removal (68 acres); *Partial Removal with ENR-nav (7 acres); *ENR-nav (9 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	B	In situ Treatment (12 acres)	ENR-sill (1 acre)	813,000	80% / 62%	\$276	9	44	73	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	75	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	59	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
1	*Removal (68 acres); *Partial Removal with ENR-nav (7 acres); *ENR-nav (9 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	C+	*Removal followed by in situ (PCBs or HG > CSL) (2 acres); *in situ Treatment (10 acres)	ENR-sill (1 acre)	820,000	82% / 63%	\$290	9	44	67	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	68	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	56	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
2	Removal (84 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	A	MNR (12 acres)	*MNR (subtidal; 0.5 acres); *ENR-sill (intertidal; 0.7 acres)	902,000	88% / 67%	\$274	10	83	83	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	135	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	79	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
2	Removal (84 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	B	In situ Treatment (12 acres)	ENR-sill (1 acre)	902,000	88% / 67%	\$283	10	45	75	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	75	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	59	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
2	Removal (84 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	C	*Removal (PCBs or HG > CSL) (2 acres); *in situ Treatment (10 acres)	ENR-sill (1 acre)	909,000	89% / 69%	\$295	10	57	75	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	71	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	57	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
2	Removal (84 acres)	Partial Removal and Cap (15 acres)	ENR-sill (2 acres)	Partial Removal and Cap (7 acres)	C+	*Removal followed by in situ (PCBs or HG > CSL) (2 acres); *in situ Treatment (10 acres)	ENR-sill (1 acre)	909,000	89% / 69%	\$297	10	46	67	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	69	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	56	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
3	Removal (84 acres)	Removal (15 acres)	Removal (2 acres)	Partial Removal and Cap (7 acres)	B	In situ Treatment (12 acres)	ENR-sill (1 acre)	955,000	89% / 69%	\$294	10	47	75	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	75	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	59	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
3* (residuals cleanup pass)	Removal (84 acres)	Removal (15 acres)	Removal (2 acres)	Partial Removal and Cap (7 acres)	B	In situ Treatment (12 acres)	ENR-sill (1 acre)	1,042,000	89% / 69%	\$320	11	39	67	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	73	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	56	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
3	Removal (84 acres)	Removal (15 acres)	Removal (2 acres)	Partial Removal and Cap (7 acres)	C+	*Removal followed by in situ (PCBs or HG > CSL) (2 acres); *in situ Treatment (10 acres)	ENR-sill (1 acre)	1,049,000	91% / 70%	\$308	11	47	69	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	69	Not modeled	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	56	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵
3	Removal (84 acres)	Removal (15 acres)	Removal (2 acres)	Partial Removal and Cap (7 acres)	D	Removal (12 acres)	ENR-sill (1 acre)	999,000	99% / 76%	\$381	13	79	79	2 x 10 ⁻⁴ / 4 x 10 ⁻⁵	Not modeled	Not modeled	Not modeled	Not modeled	Not modeled	Not modeled
4* (lower RAL/ residuals cleanup pass)	Removal (93 acres)	Removal (16 acres)	Removal (2 acres)	Partial Removal and Cap (8 acres)	E (lower RAL)	Removal followed by in situ treatment (13 acres)	ENR-sill (1 acre)	1,199,000	99% / 83%	\$443	15	37	50	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	52	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵	49	Not modeled	2 x 10 ⁻⁴ / 3 x 10 ⁻⁵

Notes

- Alternative outcomes are preliminary and approximate.
- Alternative 4E uses a RAL of 7.5 mg/kg OC for PCBs (approximately 120 ug/kg dw) compared to 12 mg/kg OC (approximately 192 ug/kg dw) for the other alternatives. In addition, Alternative 4E assumes contingency cleanup pass dredging followed by cover placement for residuals management.
- For alternatives with in situ treatment, year 0 SWACs are based on the effective concentrations considering bioavailability.
- Structural offsets are not incorporated into post-construction SWACs.

Highlighted values = Modified from 12/18/2015 Draft